micromechanical sensors comprises a plurality of microcantilevers each of which is connected to a base, where [the microcantilever] each of said microcantilevers consists of a material or layered materials which converts energy of radiation, if present, into a physical change in the microcantilever.

~~19.~~ 4 (Twice amended) An apparatus according to Claim [27] ~~18~~ 3, wherein [the microcantilever] each of said microcantilevers is comprised of at least one coating, where the at least one coating includes a first metallic coating which together with [the microcantilever] each of said microcantilevers, exhibits a bimetallic effect when exposed to energy of radiation.

F2

~~20.~~ 5 (Twice amended) An apparatus according to Claim [27] ~~19~~ 4, wherein the first metallic coating covers a portion of one surface of [the microcantilever] each of said microcantilevers and is separated from the base by a space.

F3

~~21.~~ 6 (Twice amended) An apparatus according to Claim [27] ~~19~~ 4, wherein the first metallic coating covers a portion of one surface of [the microcantilever] each of said microcantilevers and is separated from the base by an insulator.

F4

~~22.~~ 7 (Twice amended) An apparatus according to Claim [27] ~~18~~ 3, further comprising a second coating on [the microcantilever] each of said microcantilevers, consisting of a radiation absorbing

F5

material that increases the radiation flux absorbed by [the microcantilever] each of said microcantilevers.

~~28.~~ 8 (Twice amended) An apparatus according to Claim [27] ~~18~~ 3, wherein [the microcantilever] each of said microcantilevers or layered material on [the microcantilever] each of said microcantilevers exhibits a change in chemical or physical properties upon absorption of radiation.

~~34.~~ 1 (Once amended) An apparatus for [detecting] imaging at least one of electromagnetic radiation in the optical range and nuclear radiation, comprising:

a plurality of [radiation] micromechanical sensors having an element exposed to a source of at least one of electromagnetic radiation in the optical range and nuclear radiation, each of said plurality of sensors having at least one physical property affected by said at least one of the electromagnetic radiation in the optical range and nuclear radiation, and said plurality of sensors being arranged in a two-dimensional matrix;

means for monitoring changes induced by said at least one of electromagnetic radiation in the optical range and nuclear radiation in the at least one physical property of each of said plurality of sensors; and

means for correlating changes in the at least one physical property to a measure of the said at least one of electromagnetic radiation in the optical range and nuclear radiation.

F6

F7

38

2 ~~35.~~ (Once amended) The apparatus of Claim ~~34~~, wherein said means for monitoring changes induced by said at least one of electromagnetic radiation in the optical range and nuclear radiation in the at least one physical property of each of said plurality of sensors comprises means for monitoring changes selected from the group consisting of a bending of [said microcantilever] each of said microcantilevers, a shift in resonance frequency of [said microcantilever] each of said microcantilevers, and a combination thereof.

Please add the following new claims:

9 --~~36~~. An imaging array for electromagnetic or nuclear radiation detection comprising:

a two dimensional array of micromechanical sensors formed on a single wafer.--

10 --~~37~~. The imaging array of Claim ~~36~~, 9 further comprising transduction means for detecting changes in said micromechanical sensors resulting from exposure to electromagnetic or nuclear radiation.--

11 --~~38~~. The imaging array of Claim ~~37~~, 10 wherein said transduction means comprises means for detecting bending in said micromechanical sensors resulting from exposure to electromagnetic or nuclear radiation.--

12 10
--~~39~~. The imaging array of Claim ~~37~~, wherein said transduction means comprises means for detecting resonance frequency shifts in said micromechanical sensors resulting from exposure to electromagnetic or nuclear radiation.--

13 10
--~~40~~. The imaging array of Claim ~~37~~, further comprising means for transforming a detected change into an output signal.--

14 13
--~~41~~. The imaging array of Claim ~~40~~, wherein said means for transforming a detected change into an output signal comprises an optical means.--

15 13
--~~42~~. The imaging array of Claim ~~40~~, wherein said means for transforming a detected change into an output signal comprises a capacitive means.--

16 13
--~~43~~. The imaging array of Claim ~~40~~, wherein said means for transforming a detected change into an output signal comprises an electron tunneling means.--

17 13
--~~44~~. The imaging array of Claim ~~40~~, wherein said means for transforming a detected change into an output signal comprises a piezoelectric means.--

18 13
--~~45~~. The imaging array of Claim ~~40~~, wherein said means for transforming a detected change into an output signal comprises a piezoresistive means.--

19
--~~46~~. A method for imaging electromagnetic or nuclear radiation, comprising the steps of:

exposing a two dimensional array of micromechanical sensors formed on a single wafer to electromagnetic or nuclear radiation;

detecting changes in said micromechanical sensors resulting from said exposure to electromagnetic or nuclear radiation; and

transforming said detected changes into output signals.--

20 19
--~~47~~. The method of Claim ~~46~~, wherein said step of detecting changes in said micromechanical sensors resulting from said exposure to electromagnetic or nuclear radiation comprises the step of detecting bending in said micromechanical sensors.--

21 19
--~~48~~. The method of Claim ~~46~~, wherein said step of detecting changes in said micromechanical sensors resulting from said exposure to electromagnetic or nuclear radiation comprises the step of detecting resonance frequency shifts in said micromechanical sensors.--

22 19
--~~49~~. The method of Claim ~~46~~, wherein said step of transforming said detected changes into output signals comprises the step of transforming said detected changes into output signals using optical means.--

23 19
--50. The method of Claim 46, wherein said step of transforming said detected changes into output signals comprises the step of transforming said detected changes into output signals using capacitive means.--

24 19
--51. The method of Claim 46, wherein said step of transforming said detected changes into output signals comprises the step of transforming said detected changes into output signals using electron tunneling means.--

25 19
--52. The method of Claim 46, wherein said step of transforming said detected changes into output signals comprises the step of transforming said detected changes into output signals using piezoelectric means.--

26 19
--53. The method of Claim 46, wherein said step of transforming said detected changes into output signals comprises the step of transforming said detected changes into output signals using piezoresistive means.--

REMARKS

Claims 2–16 have been cancelled, Claims 18–23, 24, 34, and 35 have been amended, and new Claims 36–53 have been added. Claims 1, 17, and 25–31 have previously been cancelled. Claims 18–23, 24 and 34–53 remain in the application. Reexamination and reconsideration of the application are requested.